

Solar Blind Detector Using SiC Photodiode and Rugate Filter

Abstract of Disclosure

A detector includes a filter for substantially blocking photons having wavelengths greater than about 250 nm. A photodiode has a low dark current less than about 0.4 pA/cm². A current from the photodiode is proportional to a quantity of photons having wavelengths less than or equal to about 250 nm which pass through the filter and impinge the photodiode. A processor determines the quantity of photons impinging the photodiode as a function of the current. In a preferred embodiment, the photodiode is a SiC photodiode.

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General Information		Demographics		Clinical History		Physical Examination		Laboratory Studies		Imaging Studies		Treatment		Outcome			
Item	Value	Item	Value	Item	Value	Item	Value	Item	Value	Item	Value	Item	Value	Item	Value		
Age	45	Sex	Male	Chief Complaint	Headache	Location	Frontal	Duration	10 min	Frequency	3 times/week	Severity	7/10	Associated Symptoms	Nausea	Yes	
Weight	70 kg	Height	175 cm	Medical History	Hypertension	Medication	Lisinopril	Current Medication	Lisinopril	Recent Medication Changes	None	Family History	Stroke	Yes	Genetic Testing	Not done	
BMI	22.5	Smoking Status	Non-smoker	Review of Systems	Neurological	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
BP	130/80	Alcohol Consumption	1-2 drinks/week	Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
HR	72	Exercise Tolerance	Low	Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
RR	18	Stress Level	High	Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
SpO2	98%	Family History	Stroke	Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Glucose	100 mg/dL	Genetic Testing	Not done	Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Cholesterol	200 mg/dL	Treatment	Lisinopril	Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Triglycerides	150 mg/dL	Outcome	Improved	Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
HbA1c	5.5%			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Urea Nitrogen	10 mg/dL			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Creatinine	1.2 mg/dL			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Protein	0.5 g/dL			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Albumin	4.0 g/dL			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Calcium	9.5 mg/dL			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Potassium	4.0 mmol/L			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Sodium	138 mmol/L			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Phosphorus	3.5 mg/dL			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Magnesium	1.8 mg/dL			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Iron	150 mcg/dL			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Vitamin D	30 ng/mL			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Folate	12 mcg/dL			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
B12	400 pg/mL			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Prothrombin Time	12.5 sec			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Partial Thromboplastin Time	35 sec			Neurological	Headache	Findings	Normal	Cardiovascular	Normal	Respiratory	Normal	Gastrointestinal	Normal	Musculoskeletal	Normal	Skin	Normal
Fibrinogen	3.5 g/L																